Noise

Mitigation Monitoring Report

August 2008

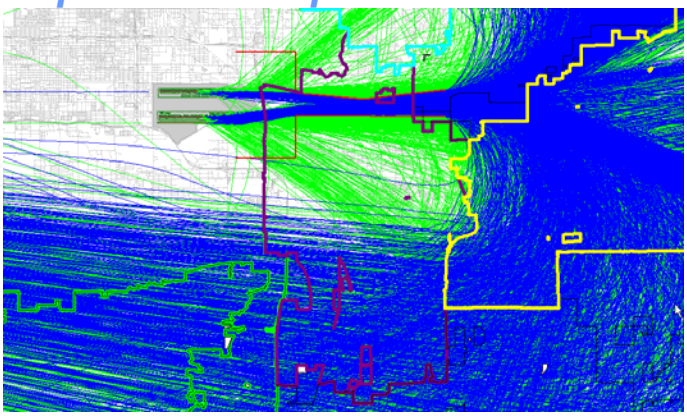
Most Compliant Airline:

Aero Mexico

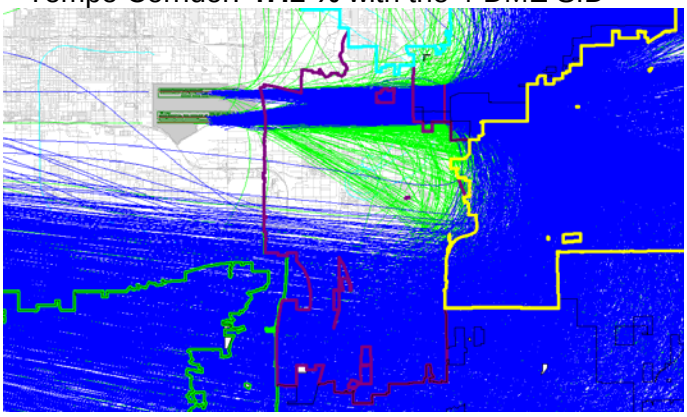
70%

Learn about noise mitigation procedures over Tempe on p.7

Departure Compliance



Tempe Corridor: **47.1 %** with the 4-DME SID



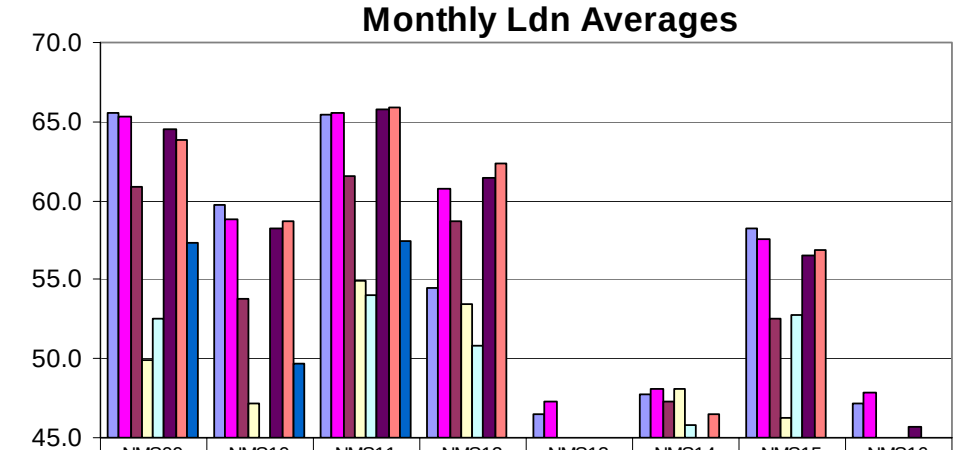
Phoenix Gate: **97.8 %** with the 4-DME SID

AVCO

Tempe Aviation Commission

This report is assembled for the Tempe Aviation Commission (TAVCO) to monitor the monthly compliance of operations at Phoenix Sky Harbor International Airport with certain noise mitigation flight procedures over the City of Tempe. TAVCO consists of 13 Tempe residents appointed by the Tempe Mayor with approval of the City Council to assist and advice on aviation noise and other issues relating to the Phoenix Sky Harbor International Airport, which is owned and operated by the City of Phoenix. The City of Tempe is located directly east of the airport's 3 parallel runways.

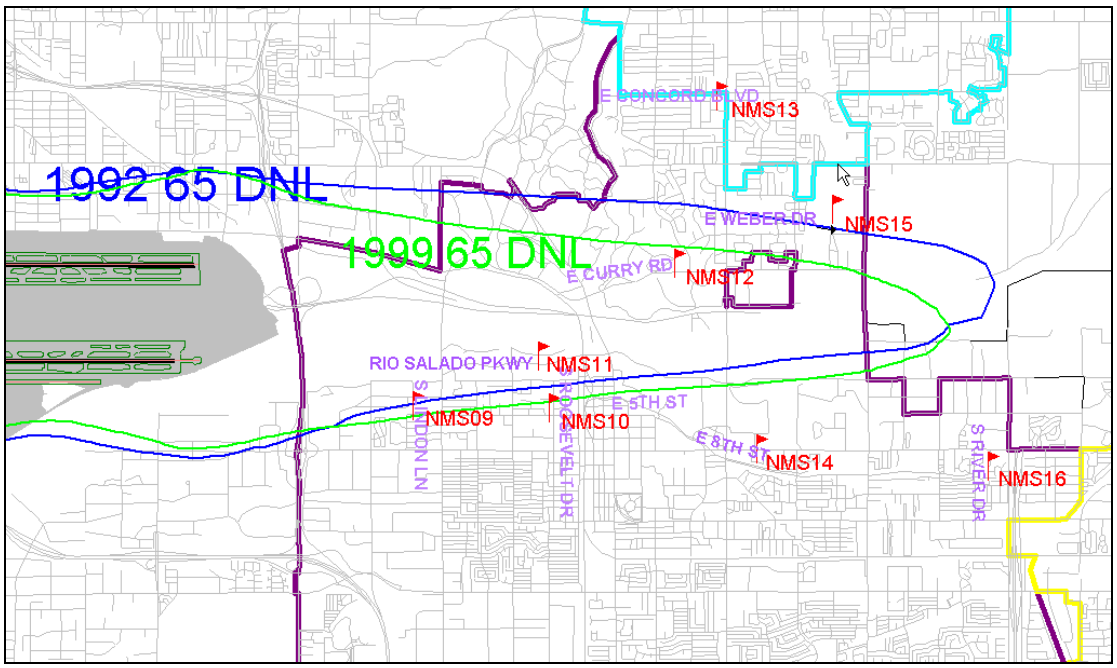
Aircraft Noise Energy Levels:



	NMS09	NMS10	NMS11	NMS12	NMS13	NMS14	NMS15	NMS16
Jan-08	65.5	59.7	65.5	54.5	46.4	47.8	58.3	47.2
Feb-08	65.3	58.8	65.5	60.8	47.3	48.0	57.6	47.9
Mar-08	60.9	53.8	61.5	58.7	43.9	47.3	52.5	44.4
Apr-08	50.0	47.2	55.0	53.4	38.0	48.1	46.3	40.7
May-08	52.5	44.6	54.0	50.8	36.3	45.8	52.8	38.4
Jun-08	64.5	58.3	65.8	61.5	44.9	44.4	56.5	45.7
Jul-08	63.8	58.7	65.9	62.3	42.6	46.4	56.9	44.6
Aug-08	57.3	49.7	57.5	44.1	30.6	39.9	41.1	40.5

Average monthly Ldn levels were at their lowest so far this year during August. On average noise energy levels registered at the monitors were not as high as for previous months and the high peak single event levels were fewer in numbers, see graphs on page 3.

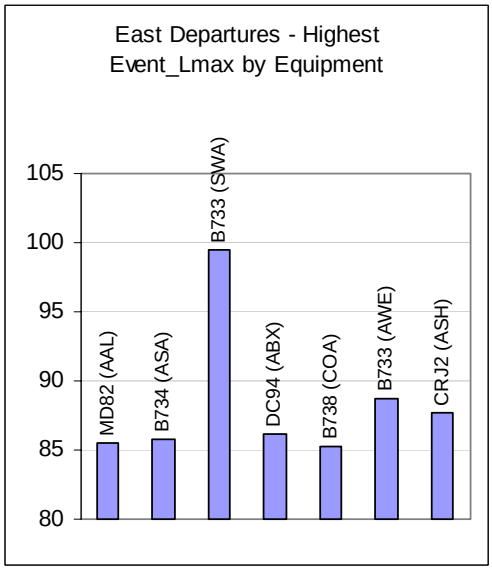
Ldn or day-night level (DNL), is a summary description of noise based on energy equivalent noise level (Leq) over the whole day with a penalty of 10 dB (A) for night time noise (22.00-07.00 hrs). DNL is used to forecast noise exposure contour lines around airports.

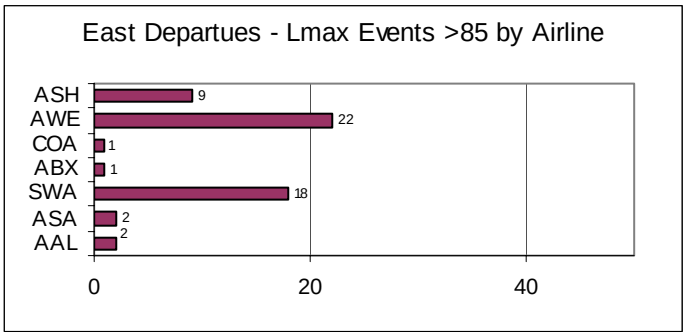


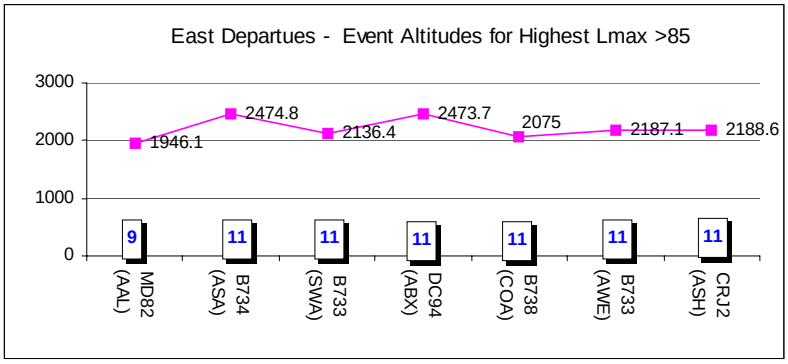
PHX Noise Monitoring Sites (NMS) and FAR Part 150 65 DNL noise contour lines in Tempe.

Peak Noise Levels:

The depicted maximum noise levels[2] were registered at the Tempe Beach Park NMS 11 and NMS 9 at the corner of West 5th Street and South Lindon Lane. The registered events >85 dB (Lmax) went down significantly in August 2008. Fewer departures created very high single events, particularly absent were the high peaks usually created by MD80 series aircraft.

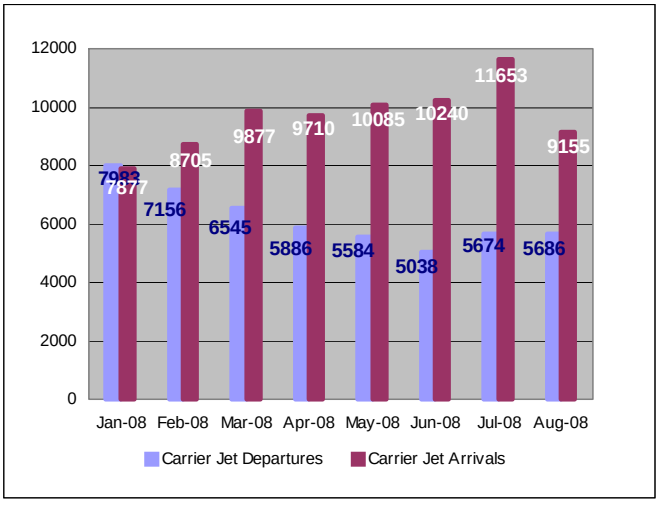


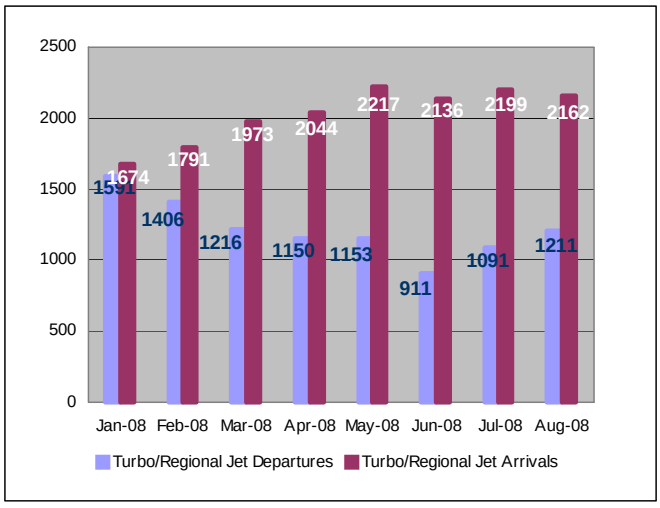




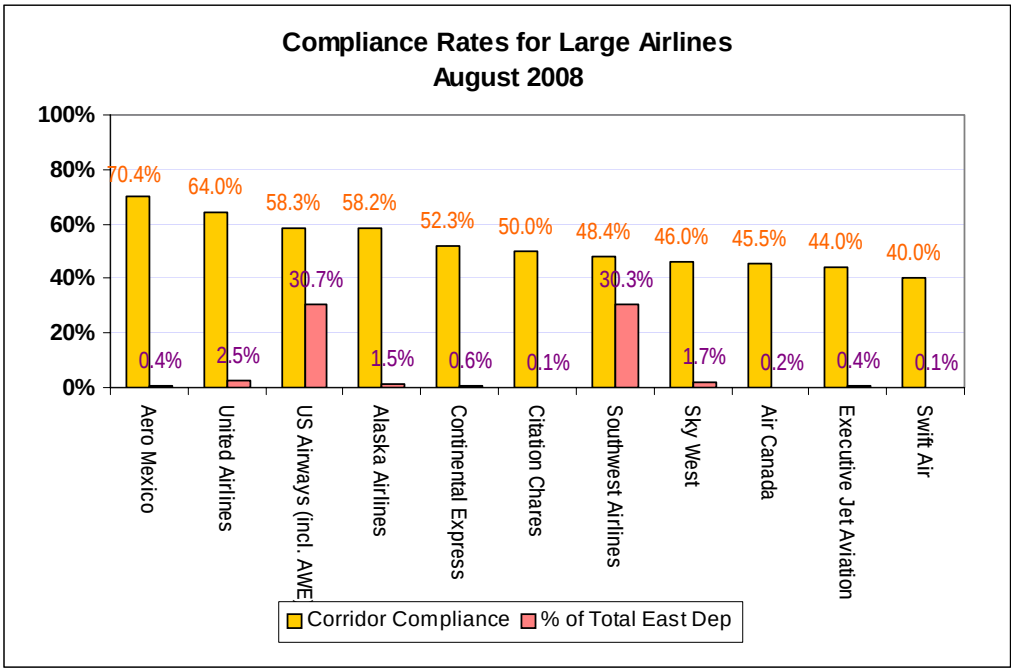
[2] Lmax is the maximum sound level (dB) registered during a particular noise event. One aircraft departure, arrival or overflight typically results in noise events being registered at more than one monitoring site.

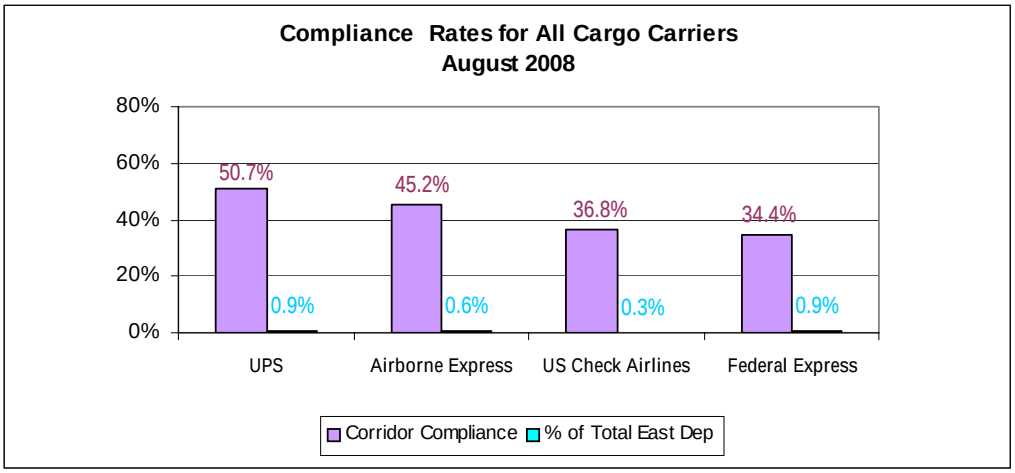
East Operations Summary:

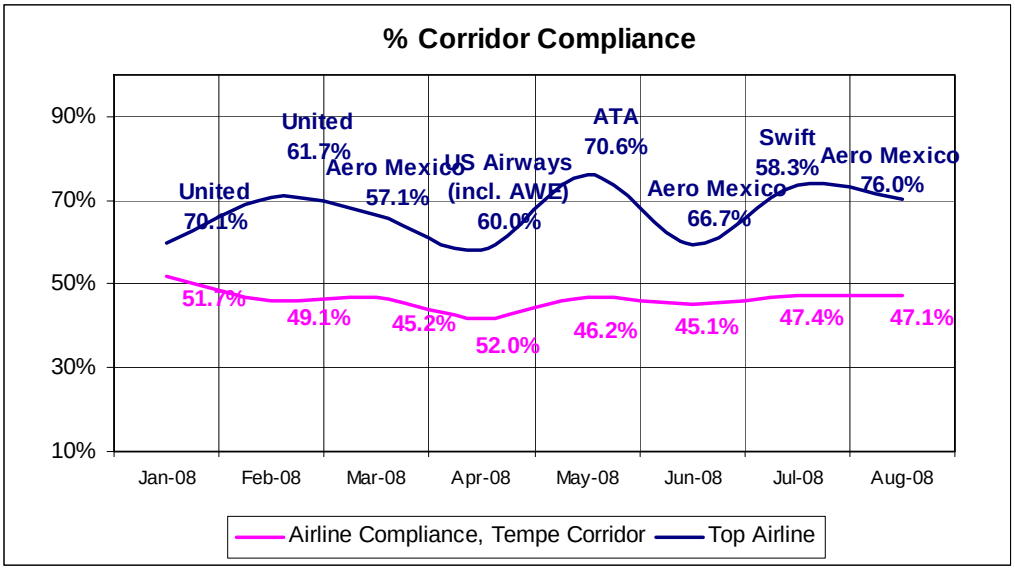




Corridor Compliance with 4-DME Standard Instrument Departure procedure:





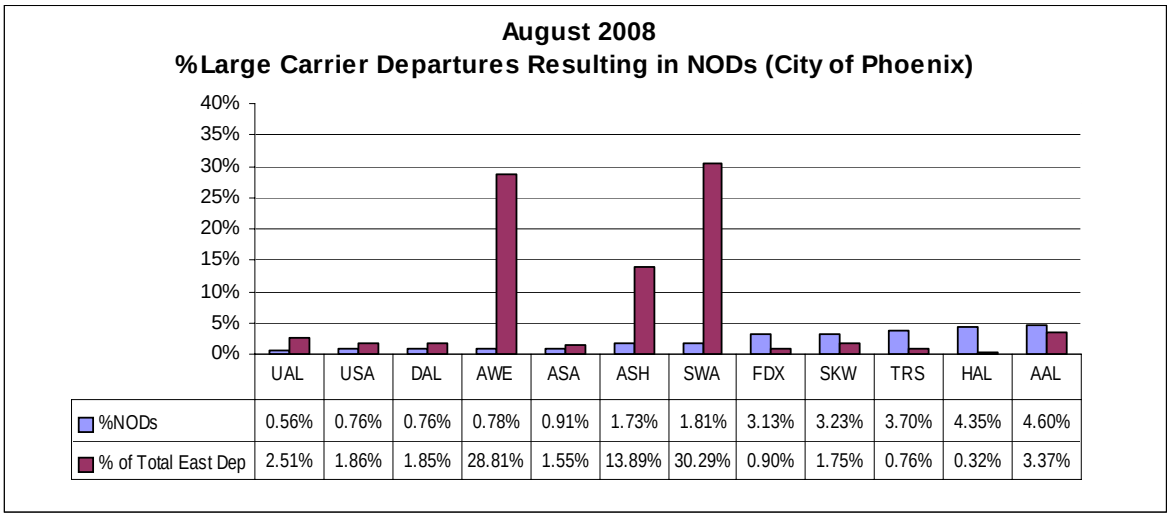


Compliance rates in this report are calculated for airlines with 10 or more departures to the east.

4-DME deviations by turbojet aircraft during the following hours were identified by PHX as being weather impacted, and were excluded from the calculation data:

8/1 19:37 - 20:45
8/3 22:05 - 22:11
8/4 07:20 - 08:30
8/5 22:12 - 23:25
8/6 21:22 - 22:16
8/7 21:18 - 00:40
8/8 06:33
8/9 22:50
8/23 2217 - 2240
8/24 0954 - 1359
8/25 1600 - 2211
8/25 2304 - 2312
8/27 1139 - 1141
8/27 2024 - 2214
8/28 2011 - 2249
8/28 22:49 - 00:27
8/29 11:36
8/30 13:58

Notices of Deviation:

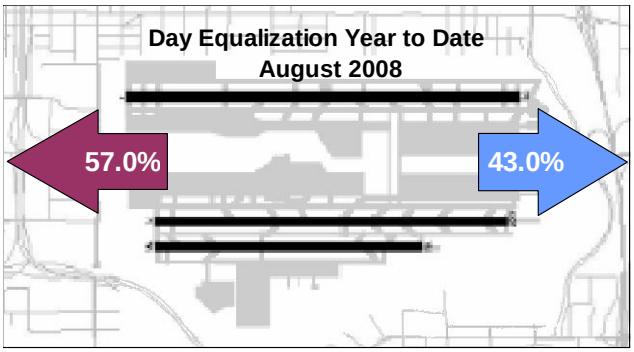


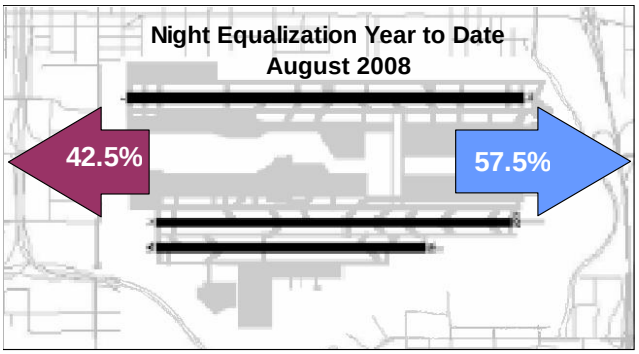
	UAL	USA	DAL	AWE	ASA	ASH	SWA	FDX	SKW	TRS	HAL	AAL
%NODs	0.56%	0.76%	0.76%	0.78%	0.91%	1.73%	1.81%	3.13%	3.23%	3.70%	4.35%	4.60%
% of Total East Dep	2.51%	1.86%	1.85%	28.81%	1.55%	13.89%	30.29%	0.90%	1.75%	0.76%	0.32%	3.37%

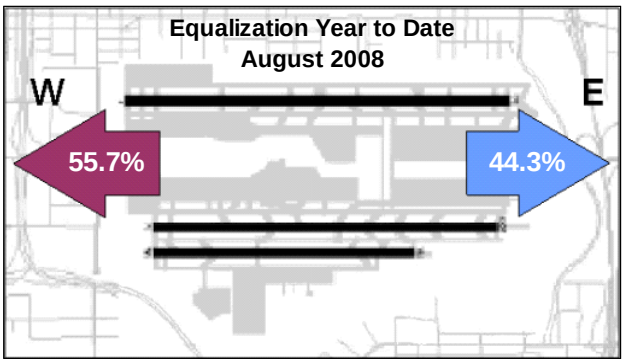
Includes the following airlines with 10 or more departures to the east:

UAL United	AWE America West	SWA Southwest	TRS AirTran
USA US Airways	ASA Alaska	FDX Federal Express	HAL Hawaiian
DAL Delta	ASH Mesa	SKW Sky West	AAL American

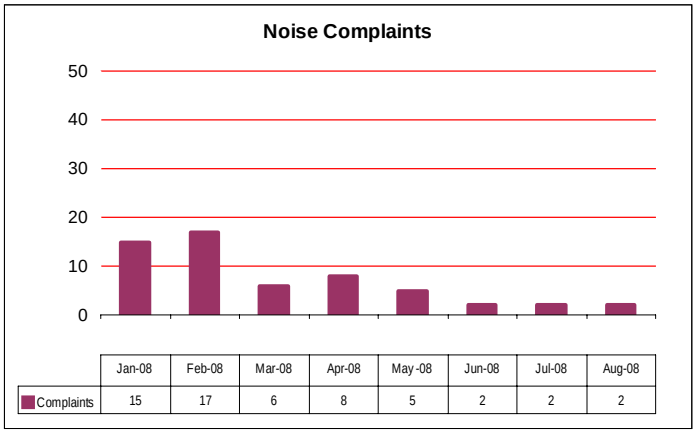
East/West Departure Split:

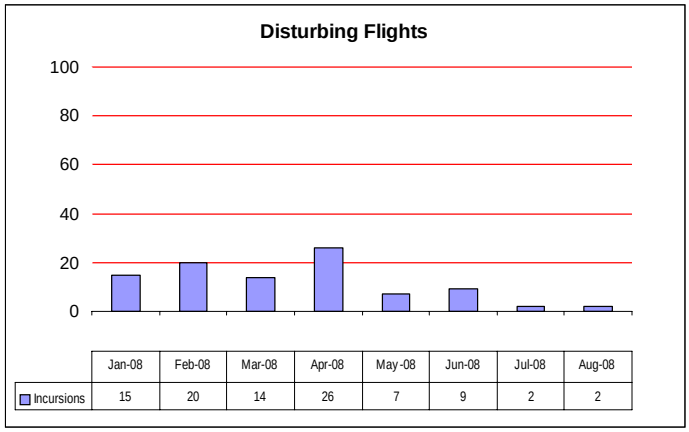




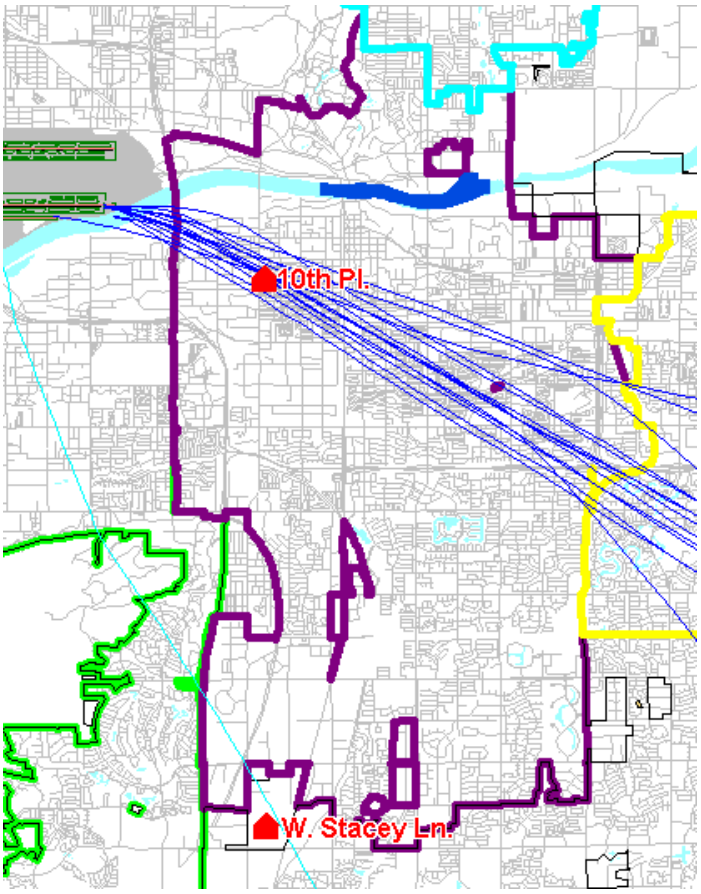


Received Complaints:





Incursions = Over flights identified to individual aircraft.



2 residents made aircraft noise complaints to the City of Tempe in August 2008, reporting:

- In the morning, a low flying 4 passenger helicopter over a neighborhood close to Priest Drive north of Ray Road.
- Departure traffic diverted southeast over Tempe neighborhoods because of a weather front. The neighborhood has been declined noise protective home upgrades even though air traffic is diverted over the neighborhood every time there is a storm.

IGA on Noise Mitigation Flight Procedures:

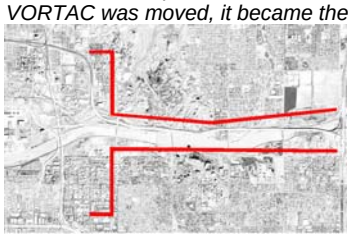
In 1994 the City of Phoenix and the City of Tempe agreed to continue noise mitigation flight procedures already in use over Tempe from the Phoenix Sky Harbor International Airport. The IGA was made after City of Tempe had challenged the plans for the construction of a third runway because of inadequate assessment of the environmental impacts, and the legal challenge was mediated and settled. The City of Phoenix agreed to submit a F.A.R. Part 150 Noise Compatibility study for the Phoenix Sky Harbor International Airport where the following agreed upon measures were included:

1. Have jet and large turboprop aircraft depart to the east over the Salt River.

2. On an annual basis equalize the noise burden from jet and large turboprop aircraft departures between east and west during daytime and nighttime hours.

3. The agreement also included a new procedure for mitigation noise from arriving jets and large turboprop aircraft to the proposed third runway (25L).

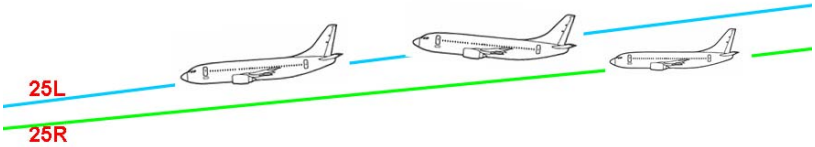
According to the 1993 Environmental Impact Statement for Phoenix Sky Harbor International Airport master plan improvements that included construction of the third runway, the 1-DME Standard Instrument Departure Procedure was to be continued for noise mitigation purposes. After the VORTAC was moved, it became the 4-DME SID.



The Tempe Aviation Commission used the SID to come up with a "Corridor" to measure airline compliance with the 4-DME SID. The airport uses a 5,500 feet long imaginary line, "Gate", running north south at 4-DME or approximately at Price Road. Turns by carrier jets north or south away from the Salt riverbed before reaching this line results in a notice of deviation from the airport to the responsible airline.

On March 27, 2002 the FAA suspended formalization of a "side step" procedure that had been in use after the third runway opened in October 2000. Presently the FAA is clearing jets and large turboprop aircraft for straight-in approaches to Runway 25L from the east. 4 contributing factors led to negative effects on flight safety and the decision to suspend the side step procedure:

1. The destabilizing effect on the approach.
2. The inability to intercept the glide slope for the third runway.



Because the threshold for Runway 25L is located farther west than the threshold for Runway 25R, the glide slope is higher up than the glide slope to Runway 25R. Using the Runway 25R glide slope a pilot would need to apply power and both turn and climb close to landing to intercept the glide slope for Runway 25L when executing the side step maneuver when abeam Sun Devil Stadium.

3. Computer reprogramming going on in the cockpit.
4. Loss of visual reference, particularly at night (Sun Devil Stadium not always being lit).